Amendment to the Claims:

1. (Cancelled).

2. (Cancelled).

3. (Currently Amended) In a geographic area served by a wireless communication system having a sparse network overlay geo-location system in which a primary wireless location sensor associated with a serving base station provides information about a signal received from a mobile appliance to another wireless location sensor as to enable the another wireless location sensor[[s]] to detect and measure an attribute of the signal, a method of locating the mobile appliance independently from the primary wireless location sensor comprising:

(a) performing ambiguity function processing at the another wireless location sensor using known data sequences in the signal and the signal received at the another wireless location sensor;

(b) extracting a timing advance and determining a surface based on the timing advance;

(c) retrieving power measurements at the mobile appliance of an adjacent cell from an Abis monitoring unit and forming location surfaces from the power measurements;

(d) performing pattern matching to compare sets of measurement data with sets of predetermined data;

(e) performing pseudo-range measurements from timing signals transmitted in radio frequency ("RF") bands from a forward link transmission, where the RF bands are not the same as the signal;

(f) using differential Doppler techniques and fading envelope detection techniques enabling known roadways to be used as surfaces of position for location; and

~~measuring an attribute of the signal at the another wireless location sensor; and,~~

(g) estimating the location of the mobile appliance based at least in part on one or more of steps (a) through (f) ~~by measured attribute~~.

4. (Cancelled).

5. (Cancelled).

6. (Currently Amended) In a wireless communication system having a sparse deployment of wireless location sensors wherein one or more base stations of the wireless communication system are not associated with a co-located wireless location sensor (WLS), a method of detecting and measuring an attribute of a target signal independently of a WLS co-located at a serving base station comprising:

(a) receiving the target signal in one or more neighboring WLS; ~~and,~~

(b) performing ambiguity function processing at the one or more neighboring WLSs using known data sequences in the target signal and the received target signal;

(c) extracting a timing advance and determining a surface based on the timing advance;

(d) retrieving power measurements at a mobile appliance of an adjacent cell from an Abis monitoring unit and forming location surfaces from the power measurements;

(e) performing pattern matching to compare sets of measurement data with sets of predetermined data;

(f) performing pseudo-range measurements from timing signals transmitted in radio frequency ("RF") bands from a forward link transmission, where the RF bands are not the same as the received signal;

(g) using differential Doppler techniques and fading envelope detection techniques enabling known roadways to be used as surfaces of position for location; and

(h) estimating the location of the mobile appliance based at least in part on one or more of steps (b) through (g).

Claims 7-16. (Cancelled).

17. (Currently Amended) In a wireless communication system having a sparse deployment of wireless location sensors wherein one or more base stations of the wireless communication system are not associated with a co-located wireless location sensor and wherein a geographic area served by the wireless communication system has a no location area, a method of determining the location of a mobile appliance comprising:

(a) determining if the mobile appliance is in the no location area, and;

(b) selecting one or more steps from the group comprising:

performing ambiguity function at the one or more base stations on known data sequences in the signal to detect signal and measure an attribute of the signal,

extracting a timing advance and determining a surface using enhanced observed time difference (EOTD);

retrieving power measurements at the mobile appliance of an adjacent cell from an Abis monitoring unit and forming location surfaces from the power measurements;

performing pattern matching to compare sets of measurement data with sets of predetermined data;

performing pseudo-range measurements from timing signals transmitted in RF bands from a forward link transmission, wherein the RF bands are not the same as the signal and;

using differential Doppler techniques and fading envelope detection techniques enabling known roadways to be used as surfaces of position for location; and

determining the location of the mobile appliance based at least in part on the one or more steps ~~using enhanced observed time difference (EOTD) to estimate the location of the mobile appliance~~.

18. (Original) The method of Claim 17, wherein data for EOTD is provided by an Abis monitoring unit.

19. (Currently Amended) In a wireless communication system having a sparse deployment of wireless location sensors wherein one or more base stations of the wireless communication system are not associated with a co-located wireless location sensor (WLS), a method for estimating a location of a mobile appliance in a sparse WLS deployment system wherein the number of WLS detecting and measuring an attribute of a signal of the mobile appliance is less than a predetermined number necessary for estimating a location, comprising:

obtaining a set of candidate measurement data selected from the group of signal strength, timing advance, cell site hearability, sector hearability, adjacent cell site power measurements, multi-path signature and time of arrival (TOA) measurements;

comparing the set of candidate measurement data with a set of predetermined measurement data; and,

if the candidate measurement data substantially corresponds to the predetermined measurement date then selecting one or more steps from the group comprising:

performing ambiguity function at the one or more base stations on known data sequences in the signal to detect signal and measure an attribute of the signal,

extracting a timing advance and determining a surface using enhanced observed time difference (EOTD);

retrieving power measurements at the mobile appliance of an adjacent cell from an Abis monitoring unit and forming location surfaces from the power measurements;

performing pattern matching to compare sets of measurement data with sets of predetermined data;

performing pseudo-range measurements from timing signals transmitted in RF bands from a forward link transmission, wherein the RF bands are not the same as the signal;

using differential Doppler techniques and fading envelope detection techniques enabling known roadways to be used as surfaces of position for location; and

determining the location of the mobile appliance based at least in part on the one or more steps ~~determining the location of the mobile appliance based on the comparison~~.

20. (Original) The method of Claim 19, wherein the multi-path signature is a function of one or more of the group comprising power, delay, frequency and angle.

21. (Original) The method of Claim 19, wherein the predetermined measurement data is empirical data.

22. (Original) The method of Claim 19, wherein the predetermined measurement data is based on theoretical propagation data.

23. (Previously Presented) In a wireless communication system having a set of base stations for communication with a mobile appliance, the set of base stations having a first subset of base stations having co-located wireless location sensors and second subset of base stations without a co-located wireless location sensor, a method of locating a mobile appliance served by one base station in the set of base stations comprising:

receiving a location request;

determining the subset of the one base station;

if the one base station is a member of the first subset;

receiving a signal from the mobile appliance at a primary wireless location sensor co-located with the one base station;

distributing information bits associated with the signal from the mobile appliances to secondary wireless location sensors to assist in acquiring the signal from the mobile appliance;

measuring an attribute of the signal at the primary and secondary wireless location sensors; and,

determining a location for the mobile appliance based at least in part on the measured attributes;

if the one base station is a member of the second sub set;

selecting one or more steps from the group comprising;

performing ambiguity function at the secondary wireless location sensors on known data sequences in the signal to detect signal and measure an attribute of the signal,

extracting a timing advance and determine a surface based on the timing advance;

retrieving power measurements at the mobile appliance of adjacent cell from an Abis monitoring unit and form location surfaces from the power measurements;

performing pattern matching to compare sets of measurement data with sets of predetermined data;

performing pseudo-range measurements from timing signals transmitted in RF bands from a forward link transmission, wherein the RF bands are not the same as the signal and;

using differential Doppler techniques, and fading envelope detection techniques enabling known roadways to be used as surfaces of position for location; and

determining the location of the mobile appliance based at least in part on the one or more steps.